

## Vanguard Applications Ware Release 7.1 Service Pak 1.0 (7.1S100)

### Advisory Notice

## 1 Introduction

This notice contains information on software improvements and changes made by the Vanguard Applications Ware Release Service Pak 7.1S100.

This notice supplements the Vanguard Applications Ware 7.1R00A Software Release Notice (Part Number T0289-01 Rev A)

This release supports several enhancements in QOS (Ethernet rate limiting), PBX Services, VBIP and ISDN on the 3400. In addition known limitations have been addressed and resolved.

## 2 Install Service Pack

### Executable File

Follow these steps to install the Service Pack 7.1.S100 patch executable file:

#### Note

For more detailed patch installation instructions, refer to the *Vanguard Software Builder Manual* (Part Number T0030).

#### Step Action

1. If you have not already done so, install Vanguard Software Builder from any Vanguide Release 7.1.R000 CD-ROM ([Part Number 72608-39 A](#)).

2. Download the 71S100.ZIP file from Vanguard Networks,  
please save the file to a local drive on your computer.

[http://www.vanguardnetworks.com/support/downloads/service\\_paks/](http://www.vanguardnetworks.com/support/downloads/service_paks/)

3. Use WinZip® to extract the ZIP file. The 71S100.ZIP file contains the 71S100.EXE file and a copy of this advisory notice in PDF format.

4. Run or open the 71S100.EXE executable file from your local drive.

5. The patch executable file prompts you with installation instructions. Insert the Vanguide 7.1R00A CD-ROM into the CD-ROM drive and select its drive letter. Follow the installation instructions provided by the installer.

[Part No. 72608-39, Rev A](#)

**Build an Image** After you install the Service Pack Patch executable file, you must build a custom release and load the custom image. This table provides general instructions for these procedures:

**Note**

For detailed instructions on building a software image and using the Vanguard Software Loader, see the *Vanguard Software Builder Manual* (Part Number T0030) and the *Vanguard Software Loader Manual* (Part Number T0057).

**Viewing Alarms and Reports**

Alarms and Reports appear in the CTP or in your network management system. For explanations of Vanguard alarms and fatal error reports (FERs), see the *Vanguard Alarms and Reports Manual* (Part Number T0005), or visit the Alarms Search database on: [www.vanguardnetworks.com/support/](http://www.vanguardnetworks.com/support/)

**Step Action**

**1.** Using Vanguard Software Builder, build a custom Release 71S100 Service Pack image by selecting the appropriate Release (7.1.S100 for example) from the **Release** drop-down menu. Select features or options that you want to include in the image.

**2.** Load the custom image using the Vanguard Software Loader.

Part No. 72608-39, Rev A January, 2008

## 3 Summary of Enhancements

### 3.1 Voice Feature Enhancements

- Automatic support for SIP VBD (voice band data) media attribute.
- PBX Services Feature Enhancement (See Section 6 for more detail).
- Collect Call Enhancement (See Section 6 for more detail)

### 3.2 3400 BRI SUPPORT

- Allow support of the BRI S/T data daughtercard Product Code 1152-10005 to be used on the 3460.
- Allow support of the BRI Voice daughtercard Product Code 68525 to be used on the 3460.

### 3.3 New Feature "Ethernet Output Rate Limit:

The New parameter "Output Rate Limit" can be configured on all supported Vanguard products Ethernet port(s) as of service pack release 7.1S100. The purpose of this new feature is specifically for cable modem access to the internet where upstream bandwidth is typically limited to approximately 1 MBPS. The connection from the Vanguard router to the cable modem is usually via the Ethernet port running at 10 or 100Mbs allowing the router to exceed the cable modems capacity to transmit out to the Internet. If this occurs, the cable modem will discard data resulting in a negative impact on all user data but particularly voice traffic. The rate limit can be set to match the cable modems upstream capacity thus allowing for no discards at the cable modem outbound and the routers prioritization schemes (QOS) to remain affective.

For more information see:

[http://www.vanguardnetworks.com/support/documentation/white\\_papers](http://www.vanguardnetworks.com/support/documentation/white_papers)

### 3.4 VBIP Enhancements

Allow the VBIP protocol used by the IP/BSC ATM machines to be compatible with the Stratus front end by allowing the VBIP status field to not be sent in the VBIP header.

## 4 Service Pak 7.1.S100 Software Improvements

The table below lists Change Request and Software Improvements. A Change Request that is reported to Customer Service is assigned a Change Request number and, in most cases, an interim patch is released to fix the problem. These Change Requests and Software Improvements are incorporated into the Vanguard Applications Ware Release 7.1.S100 and, where applicable, an interim patch release may be replaced with this service pak.

<b>Change Request Number</b>	<b>Release Where Problem was Reported</b>	<b>Interim Patch Release Replaced by 7.1.S100 Release</b>	<b>Problem Description</b>
17150	7.1R00A	None	SIP - 407 proxy authentication fails when call-id changes in new INVITE.
17351	7.1R00A	None	Digital ports can be configured for DSP Option 4, which is not supported.
17384	7.1R00A	None	CLI does not support SNMPv3.
17443	7.1.R00A	None	Customer needs phone number shown in billing record.
17451	7.1.R00A	7.0.T16R	Node crashing when making H323 calls cycle.
17455	7.0.R00A	7.0.T16Q	Modem not responding to init.
17458	7.0.R00A	7.0.T10B	Multiple crashes FER FAULT: Program Encountered.
17469	7.1.R00A	None	[SNMP]: VBIP: Unable to get responses back for VBIP OIDs.
17470	7.1.R00A	None	[SNMP]:VBIP: tcpbsc_opt.mib file compile errors.
17475	7.0.R00A	7.0.T16S	ISDN packet viewer is not working for interface 1.
17478	7.1.R00A	None	[SNMP]:VBIP: Node crash with no FER when executing Get-Next Request.
17483	7.1.R00A	None	[SNMP]:VBIP: Unable to boot a device with tcpbscConfTcpSessDevControl.
17506	7.0.R00A	7.0.T16T	Router stops to export IPflows.
17508	7.1.R00A	None	DSP option 4 is not available in the default TI DSP selection in the node record.
17518	7.1.R00A	None	Prevent IPSEC Channel Stats Crashes. V342 crashed with FER FAULT: Data TLB Miss Exception Encountered.
17526	7.0.R00A	None	[6840]:Unable to bring up PPP Port due to Port Initialization error.

17540	7.0.R00A	None	6840 Node crash after booting FRI Port to activate Station Type.
17541	7.0.R00A	None	Node crash right after booting FRI port and typing 5.7.1.<enter>.
17542	7.0.R00A	None	Unable to make FRI virtual port over T1 once BRI is installed.
17546	7.0.R00A	None	Node Crash due to _os_qost: Node crashed during re-trying to make calls over BRI X.25 virtual ports.
17555	7.0.R00A	7.0.T01A	TBOP bypass no longer works.
17558	7.1.R00A	None	Collect call doesn't work properly.
17559	Feature	None	SIP - Blind Transfer does not work at Embratel.
17560	7.1.R00A	None	Call Waiting is not working (REFER) 3460.
17562	7.1.R00A	None	CLIP is not working properly.
17565	7.0.R00A	7.0.T01A	Node crashes when attaching BRI cable.
17578	7.0.R00A	7.0T16T	Node continually resets when BRI Voice is configured if build has PRI\BRI Voice.
17574	7.1.R00A	None	[3400]:[SW Loader]:Unable to load images onto Alternate via TFTP.
17584	7.1.R00A	None	BRI Virtual Voice Port get stuck in RX-DIGITS state on failed CVS lookup.
17588	7.0.R00A	7.0.T16V	The long packet was not able to pass LCON.
17591	7.1.R00A	None	FXO Caller ID not functioning
17597	7.1.R00A	None	[BRI]:PPP: Unable to bring up a PPP link after Idle Timer expires.
17617	7.1.R00A	7.1.T01B	Node crashed FAULT: Data TLB Miss Exception Encountered
17624	7.1.R00A	7.0.T16W	BRI virtual voice get stuck in RX-DIGITS state on failed CVS lookup

**Note:** The Change Request Number is a number assigned by Vanguard Networks and is used exclusively for tracking purposes.

## 5 Known Limitations

### **Changing the Master Voice Port DSP Image Selection and Booting the Voice Port causes the DSP to reset. (CR17534, CR17579)**

When the master voice port DSP Image selection is changed and the port is booted, the DSP associated with the Voice Port will reset requiring a Node Boot.

*Work Around:*

Boot the node when modifying the DSP image selection.

### **BRI: Interface remains "IDEL" after the node is booted. (CR17539)**

If the node is booted while an ISDN call is active, the Interface may not recover and continue to pass data.

*Workaround:*

After booting the interface, Boot Virtual Port Boot. If this doesn't work, unplug and plug the cable back in.

### **FXO Caller ID Detect. (CR17591)**

In Software Releases 7.1R00A and 7.1S100, the FXO Caller ID Detect functionality is not working properly. When the FXO Interface detects a valid Caller ID number, it should be passed along to the final destination to be displayed. However, the FXO Interface is unable to detect a valid Caller ID Number, therefore, the FXO Interface will, instead, place its own Local Subscriber Address information to be displayed at the final destination. This will be corrected in a later release.

### **Only the first 155 entries in the Virtual Port Mapping Table are usable in a 68XX only. (CR16941)**

*Workaround:* Limit configuration to the first 155 VPMT table entries.

### **Booting an IPSEC Tunnel is not supported. (CR17196)**

Booting an IPSEC tunnel configured as dynamic is not supported.

*Work Around:*

If a configuration needs to be booted-in for a dynamic tunnel, then a node boot is required.

### **BRI: Interface Type 5ESS (AT & T) is not supported in 7.1. (CR17615)**

*Workaround:* N/A

### **BRI: Interface Type DMS1 is not supported by 6840 and 3400. (CR17614)**

*Workaround:* N/A

## 6 Voice Feature Enhancements

### 6.1 PBX Services Enhancement

In Release 6.4, PBX Services Feature was added to the Vanguard Applications-Ware Voice Feature Set. In Release 7.1S100, new parameter called PBX Services Command Mode has been added to the Node Record. The possible settings to the PBX Services Command Mode are:

- EM – Enhanced Mode
- AM – Abbreviated Mode
- BK - Backward Compatible Mode (default)

#### *6.1.1 PBX Services Command Mode Detail*

##### **PBX Services Command Mode:**

Range = Enhanced-Mode, Abbreviated-Mode, Backward-Compatible-Mode  
Default = Backward-Compatible-Mode

Subscriber phone keypad 'commands' to invoke various PBX services can be configured to operate in one of three modes to satisfy the requirements of various users.(See Vanguard Voice ApplicationsWare documentation for complete details.)

**ENHANCED\_MODE** - This option offers the most flexibility when invoking PBX services. In this mode, the direction of call origination does not matter.

With one active call and one call on-hold...

flash 1: Disconnect the active call and switch to the call on-hold or answer a call waiting.

flash 2: Toggles between the active call and the call on-hold or puts active call on-hold and answers call waiting

flash 3: Initiates 3-Party Conference.(future)

**ABBREVIATED\_MODE** - This option permits a simpler method of invoking PBX services, but limits some functionality allowed by ENHANCED\_MODE.

With one active call and one call on-hold or call waiting...

flash: - A answers call waiting or

- If B called A and A called C, A toggles between the active call and the call on-hold or
- If A called B and C, A initiates 3-Party Conference.(future)

**BACKWARD\_COMPATIBLE\_MODE** - For backward compatibility in pre-existing installations, this parameter defaults to use of the older PBX command sequences, if they are preferred.

With one active call and one call on-hold...

# flash: Disconnect the active call and switch to the call on-hold.

flash: Toggles between the active call and the call on-hold.

When Call Waiting is present...

flash \*9: Answer call waiting, putting the current call on-hold.

Note - In addition to a table and node record boot, a port boot is required for each affected port.

### ***6.1.2 PBX Services Command Mode State Table***

The Table 1 outlines the call transitions and states depending on the call operation, user action and the PBX Services Command Mode setting.

**Table 1 Supplementary Services Activation/Invocation Codes and Descriptions**

Operation	User Action	Condition before	Description
Hold	Flash	A is talking with B	A hears confirmation tone followed by dial tone; B may hear MOH. Direction of call origination does not matter. Same for abbreviated and enhanced mode.
Retrieve	Flash	B On-Hold; No other call is present.	A and B are reconnected Same for abbreviated and enhanced mode.
Initiate Call Consultation	Flash, digits for C	A is talking with B; No other call is present.	B is put on Hold, A hears confirmation & dial tones. A dials the number for C.
Toggle Active/Held Calls	AM: Flash	B called A or C called A	Toggle active and held calls
	EM: Flash 2	Direction of call origination does not matter.	A flashes and hears confirmation tone followed by dial tone; A presses 2 to toggle active and held calls.
	BK: Flash		Toggle active and held calls
Release Unanswered Consultation Call and Retrieve Held Call	AM: Flash	B On-Hold; Direction of A-B call origination does not matter. A is dialing C or C is ringing.	A decides not to consult with C before C has answered. A disconnects call to C and returns to B.
	EM: Flash		A decides not to consult with C before C has answered. A flashes and hears confirmation tone followed by dial tone; A presses 1 to disconnect call to C and return to B.
	BK: Flash		A disconnects call to C and returns to B.
Release Answered Consultation Call and Retrieve Held Call	AM: N/A	A called B; A put B on-hold; A called C; A talking with C.	See 3-Party Conference.
	EM: Flash 1	B on-hold; Direction of A-B call origination does not matter. A called C; A talking with C.	A flashes and hears confirmation tone followed by dial tone; A presses 1 to disconnect active call and retrieve held call.
	BK: # Flash		A disconnects call to C and returns to B. The # key distinguishes the flash from a simple toggle. If User-A forgets the #, call will disconnect when User-C hangs up. Flash should be pressed within 5 seconds of the # key.
Complete a Call Transfer	A hangs-up	B on-hold; Direction of A-B call origination does not matter. C is ringing or A is talking with C.	B becomes connected to C and hears ringing if C has not yet answered. A is disconnected from both B and C. If the transfer fails for any reason, A's phone rings. When A picks up, A talks with B.
Answer Call Waiting	AM: Flash	A is talking with B; C calls A and hears ring-back from A. A hears a Call Waiting tone.	A puts B on-hold and answers C. Subsequent flashes toggle A between B and C.
	EM: Flash 1 or 2		1 - A disconnects B and answers C. 2 - A puts B on-hold and answers C. Subsequent flash 2's toggle A between active and held calls. Flash 1 at any time will disconnect the active call before retrieving the held call.
	BK: Flash*9		A puts B on-hold and answers C. Subsequent flashes toggle A between B and C.
3-Party Conference (Future)	AM: Flash	A called B; A put B on-hold; A called C; A talking with C.	3-Party conference is established. Subsequent flashes have no effect. If B hangs up, A remains connected to C. If C hangs up, A remains connected to B. If A hangs up, all parties are disconnected.
	EM: Flash 3	B on-hold; Direction of A-B call origination does not matter. A called C; A talking with C.	

Activate/Cancel Call Forward Unconditional	*31, digits, hang up/ #31	No calls present.	A dials the number of the destination to forward all calls to A. No verification of the number is made at this time. The number must be part of the dialing plan of all callers. If no digits are entered, the number defaults to system voice mail .
Activate/Cancel Call Forward if Busy	*32, digits, hang up/ #32	No calls present.	A dials the number of the destination to forward calls if A is busy. If no digits are entered, the number defaults to system voice mail.
Activate/Cancel Call Forward if No Answer	*36, digits, hang up/ #36	No calls present.	A dials the number of the destination to forward calls if A does not answer after the configured no-answer time -out (over-rides calling user's configured no-answer time -out). If no digits are entered, the number defaults to system voice mail.
Send hook-flash	AM: N/A EM & BK: *Flash	A wants to send hook-flash transparently through the Vanguard network.	Use this special function to invoke a remote PSTN supplementary service. (Applicable to FXS-to-FXS or FXS-to-H.323 only)

## 6.2 Collect Call New Parameter Descriptions

Node Level Parameter:

\*Collect Call Pre-Digit to Calling Party Number: (blank)/  
Range = 0-1 alphanumeric characters, use the space character to blank field  
Default = (blank)

In some collect call applications, the central switch will prepend a digit to the calling party number to signal this call is a collect call.

The called party, or its application, can know from the caller id that this is a collect call.

Enter a digit from 0 to 9. A blank value disables collect call processing  
(See FXS port parameter 'Pre-Called-End-Disconnect-Delay Interval'

\*Note: A change to this parameter requires a node boot to take effect.

Port Level Parameter:

[71] Pre-Called-End-Disconnect-Delay Interval (sec): 0/

Range = 0-60

Default = 0

The time from when the called party answers until the Rx Called End Disconnect Delay Timer takes effect. If the called party hangs up within this time interval, the Rx Called End Disconnect Delay is canceled and the call is disconnected immediately. If the called party hangs up after this time interval, the normal Rx Called End Disconnect Delay Timer is used.

This can be used, for example, to disconnect quickly in order to reject collect call charges.